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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,686	08/16/2001	Stephan Appen	MUH-11671	3318

7590

07/08/2003

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EXAMINER

PATEL, PARESH H

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,686

Applicant(s)

APPEN ET AL. *W*

Examiner

Paresh Patel

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-- The MAILING DATE of this communication appears in the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 12, location and relation of interface board is not clear. Also relation between contact pins and contact surface as disclosed in the claims are not clear.

For the purpose of Examination and to expedite the process of prosecution Examiner's suggestion is added with underline italic font.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 7-10 and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishikawa (US 6411079).

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Regarding claim 1, Nishikawa discloses: An apparatus for automated testing [fig. 5], calibration and characterization of test adapters for semiconductor devices, comprising:

a holder [51] for holding a test adapter [2];

at least one probe head [141A-B of 4U] adjustably disposed relative to said holder, said probe head having at least two contact pins [142 of 141A-B] with an adjustable spacing distance there between [spacing between 142 of 141A and 141B]; and an adjustment device[using 141AX-Z and 141BXX-Z] configured to adjust said probe head relative to said holder.

Regarding claim 2, Nishikawa discloses: The apparatus according to claim 1, wherein said at least one probe head is one of a plurality of probe heads [141A-B of 4D].

Regarding claim 3, Nishikawa discloses: The apparatus according to claim 1, wherein said probe head is movably disposed in elevation perpendicularly to a surface of said holder [see fig. 5].

Regarding claim 4, Nishikawa discloses: The apparatus according to claim 1, wherein said adjustment device is a robot arm [141F and 141AX-Z] and said probe head is mounted on said robot arm [via 141AX-Z].

Regarding claim 7, Nishikawa discloses: The apparatus according to claim 1, which comprises a stepping motor disposed to selectively move said holder [63].

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Regarding claim 8, Nishikawa discloses: The apparatus according to claim 1, which comprises a control device [71] connected for controlling a distance between said contact pins.

Regarding claim 9, Nishikawa discloses: The apparatus according to claim 7, which comprises a control device connected to said stepping motor [71 and lines 1-8 of column 5] and wherein said stepping motor is controlled by said control device.

Regarding claim 10, Nishikawa discloses: The apparatus according to claim 1, wherein the test adapter is a test card [2].

Regarding claim 17, Nishikawa discloses: The apparatus according to claim 1, wherein said holder is configured to be rotatable or movable [using 63, 62, 62, 61] with respect to said adjustment device.

Regarding claim 18, Nishikawa discloses: The apparatus according to claim 1, wherein said probe head is adjustable within a coordinate system selected from the group consisting of a polar coordinate system and a cartesian coordinate system [inherent to program stored in ROM of CPU and CAD].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 5-6, 12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa as applied to claim 1 above, and further in view of Official Notice.

Regarding claim 5, Nishikawa discloses all the elements except **a control device to controls a rotation of said holder**. However, Nishikawa discloses a control device [71 and 73] and the holder [51]. Nishikawa's holder moves in X-Y direction using the control device [71 and 73]. It would have been an obvious matter of design choice to make holder rotate, since applicant has not disclosed that rotation of holder solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the holder and the control device of Nishikawa.

Regarding claim 6, Nishikawa discloses all the elements except he/she is silent about the holder is configured to hold test adapters **with different diameters** because it is well known in the art that test adapter can be of any shape and size [inherent to 53 of fig. 2 and different size of 2].

Regarding claims 12 and 14-16, Nishikawa discloses all the elements except for **said contact pins are formed with pointed ends, are spring-biased, have a profile defining the spring-biased configuration thereof and have a separate spring**. It would have been an obvious matter of design choice to use contact pins formed with pointed ends, spring-biased, have a profile defining the spring-biased configuration thereof and have a separate spring, since applicant has not disclosed that use of these different configuration of contact pins solves any stated problem or is for any particular

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purpose and it appears that the invention would perform equally well with the contact pins of Nishikawa.

Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa as applied to claim 1 above, and further in view of Vinson et al. (PCT/GB98/03262).

Regarding claim 11, Nishikawa discloses the test adapter is formed with a number of contact surfaces [contact of 2] one behind the other in a radial direction of the test adapter. Nishikawa discloses all the elements except said **probe head has a number of said contact pins corresponding to the number of contact surfaces on the test adapter**. Vinson et al. (herein after Vinson) discloses probe head [10] has a number of said contact pins [probe of fig. 2-4 with different arrangement as shown in fig. 5-7] corresponding to the number of contact surfaces on the test adapter. It would have been obvious to one having ordinary skill in the art to modify apparatus of Nishikawa with probes of Vinson, in order to reduce testing time of each test adapter, thereby increasing throughput.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa as applied to claim 1 above, and further in view of Barker (GB 2 240 435 A).

Regarding claim 19, as best understood by Examiner, Nishikawa discloses all the elements except for an interface board and contact pins of the interface board configured to contact contact surfaces on the test adapter. Barker discloses an interface board [10] with a contact pins [11] to contact contact surfaces on the test adapter [15]. It

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would have been obvious to modify the apparatus of Nishikawa with interface of Barker in order to make electrical contact between probe head and test adapter during testing.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 703-306-5859. The examiner can normally be reached on M-F (8:30 to 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Paresh Patel
June 25, 2003



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